CADUCEUS

a museum quarterly
for the health sciences

Winter 1985

Caduceus: a museum quarterly for the health sciences

Volume I • Number 4 • Winter 1985
Published by the
Department of Medical
Humanities

Board of Editors

Glen W. Davidson	Editor
Linda Keldermans	Associate Editor
Phillip Davis	Assistant Editor

Staff

Lisa Dziabis	Curator, The Pearson Museum
M. Lynne Cleverdon	Business Manager

Subscription Rates—

The subscription rate per year for *Caduceus* is as follows: $30.00 for one year (4 issues) and $54.00 for two years (8 issues). International subscribers should add $2.50 to regular subscription prices to cover postage and handling. A single copy of *Caduceus* is $10.00.

Advertisements—

Advertisements for publication in *Caduceus* are accepted as space allows. Interested parties should submit final ad copy and stipulate as to whether they wish full- or half-page coverage. The price per ad, which includes all design and camera work, is $100 for a full-page ad and $65 for a half-page ad.

All subscription and advertisement communications should be addressed to the
Department of Medical Humanities
Southern Illinois University
School of Medicine
P.O. Box 3926
Springfield, Illinois 62708
Phone (217)782-4261

Copyright ©1985 The Board of Trustees
of Southern Illinois University

ISSN No. 0882-6447

CADUCEUS

a museum quarterly
for the health sciences

BOARD OF ADVISORS

Class of 1987

James F. Craig
Museum of the Baltimore College of Dental Surgery
University of Maryland at Baltimore Dental School
Baltimore, MD 21201

Patsy Gerstner
Howard Dittrick Museum of Historical Medicine
The Cleveland Health Sciences Library
Cleveland, OH 44106

Diana Lewis
Museum of Medical Science
Houston, TX 77288

Mary Ellen McElligott
Illinois State Historical Library
Springfield, IL 62706

John Parascandola
History of Medicine Division
National Library of Medicine
Bethesda, MD 20209

Women in Health Care Delivery: The Histories of Women, Medicine and Photography

Jill Gates Smith

Graduates from the Woman's Medical College of Pennsylvania, Class of 1986. (Photo courtesy of Archives and Special Collections on Women in Medicine, The Medical College of Pennsylvania.)

Women in Health Care Delivery: The Histories of Women, Medicine and Photography

By Jill Gates Smith

"If I could tell the story in words, I wouldn't need to lug a camera."[1]

Lewis Hine

Women in health care delivery have been the focus of numerous discussions in the past decade. However, as early as the Civil War, photographic images of women in a variety of experiences, settings and specializations in medicine, have been neglected as a primary source of information on women as health care practitioners. The twenty-two photographs in this essay have been selected from the Archives and Special Collections on Women in Medicine from The Medical College of Pennsylvania. Within an historical context, these photographs augment an ongoing appraisal of women in health care delivery.

SOCIAL MOVEMENTS

In combining a number of subjects—the histories of women, medicine and photography—I decided that perhaps it would be helpful to chart the development of photography and medicine from the 1840s to the 1880s, as manifestations of social movements growing in very different directions.

Photography was formally introduced to the world by the French government in 1839. This gesture made L. J. M. Daguerre's unpatented procedure for making a photographic image available to those who could afford the time and cost of learning the chemistry of the craft or of sitting for a professional photographer who had become familiar with the process. Sitting for a portrait was a feat of stamina which demanded that the subject hold an unwavering pose for eight minutes or longer. Oliver Wendell Holmes dubbed the daguerreotype "the mirror with a memory."[2]

The earliest photographic processes created one-of-a-kind images with expensive materials available on a limited basis.

Photographic processes advanced from the daguerreotype to the tintype, which had no negative to re-create multiple images; to negatives of paper, glass, or gelatin; and, in the twentieth century, to plastic, by which the photographer could capture one impression that could be replicated. As a result, the technology and components of photography were simplified, mass produced and became increasingly available to a wider and wider audience of practitioners.

At the same time, proponents of medicine and health care were struggling towards an opposite goal—that of narrowing the pool of practitioners by stipulating special schooling and licensure before the skills of the craft could be practiced.

During the American colonial period, medical practices were within everyone's grasp. Those who professed to have specific knowledge for which they charged a fee were viewed with suspicion. Why pay a "doctor" to lance a boil when the barber could do it, and even advertized himself as a physician? Why pay to take a prescribed medicine when the same ingredients were available in the garden? Why pay the young, European-trained stranger when a well-known acquaintance could offer comfort as well as a cure? In addition, the heroic techniques of medicine—purging, bleeding, and rudimentary surgery—practiced well into the nineteenth century were what the newly trained physician offered. Why seek the help of a practitioner whose cures were often worse than the initial complaint?

After generations of poor publicity based upon a well-founded lack of trust on the part of the public and a very real lack of accurate medical information on the part of the physician, things began to change. In the mid-nineteenth century, a transition in the marketing of medicine developed in conjunction with discoveries that began to unlock the mysteries of disease and illness. Trained physicians could offer help above and beyond that offered by untrained, or rather, unschooled, practitioners.[3] These "schooled" practitioners sought to professionalize their ranks in order to elevate their standing in the eyes of the community and to establish requirements for entrance and participation in the field.

Women were specifically and intentionally excluded from this drive towards professionalization. In the introduction to *In Her Own Words: Oral Histories of Women Physicians*, historian Regina Markell Morantz explains how developments in midwifery "illustrate [the] process of professionalization and exclusion":

> In the seventeenth century . . . , as long as childbirth continued to be defined as a normal process and all practitioners remained equally ignorant of the physiological mechanisms involved, custom and superstition barred men from the lying-in room. By the middle of the eighteenth century, however, improvements in the use of forceps . . . to shorten protracted labor often meant life instead of death for mother and child. . . . With the approval of either the parturient women themselves or their anxious husbands, determined and occasionally self-righteous male accoucheurs defied custom. . . . Male midwifery [gained] increasing acceptance among men and women of influence because it stood for safety, progress, and science. . . . Although some early male obstetricians were willing to work with the midwife and allow her to retain control over "normal" cases, professional tolerance did not last long.[4]

The creation of a male-dominated field of "regular" medicine—the medicine taught at and practiced by graduates of "regular" or traditional medical schools—succeeded in limiting the number and type of entrants to the profession.[5]

Even with these changes, there was still a need to improve the public image associated with the physician and his work. In the late nineteenth century, then, photography was solicited to serve medicine. Already comfortable with the scientific aspects of photography, physicians decided to exploit its aesthetic qualities so as to alter the public's impressions of medicine. Visual documentation of individual doctors at work, successful cures, and large programs of improving the health and general welfare of the public were positive reinforcement for the profession and an extension of how physicians saw themselves and wanted the public to see them.[6]

Several of the photos included in this essay serve that same purpose for women in medicine. Esther Pohl Lovejoy, M.D., the founder and life-long director of the American Women's Hospital Services (AWHS), was acutely aware of the power of a photographic image and the need to portray women working with competence and determination in medicine. Lovejoy founded AWHS to provide desperately needed medical services in Western and Eastern Europe during and after World War I. When working members of AWHS sent her photographs from the field (which eventually stretched from South Carolina to Serbia), Lovejoy

would respond with gratitude, encouragement, and often the suggestion that their AWHS armbands be more visible next time. In fact, there are prints in the AWHS collection at the Archives and Special Collections on Women in Medicine at the Medical College of Pennsylvania which have been touched up to bring out the letters on the armbands. Lovejoy's comments are particularly noteworthy when one realizes that they were directed towards women working in combat conditions. Her insistence upon making the work of women in AWHS, or any woman's professional medical organization, visible is understandable considering the struggle women had to become professional medical practitioners.

A BRIEF HISTORY

Perhaps it would be helpful at this point to provide a brief history of women's struggle for entry into professionalized medicine. Any such history necessarily must emphasize the role of the Woman's Medical College of Pennsylvania, the original name of The Medical College of Pennsylvania and the institution which houses the Archives and Special Collections on Women in Medicine.

The history of midwifery is an excellent example of the systematic exclusion of women from the professional brotherhood of medicine and medical schools. There were women and men, however, who fought as earnestly and fervently to open the brotherhood as those who worked to keep it closed. In the middle of the push towards professionalism, the social reform movement of the 1850s and 1860s swept through America and influenced a multitude of institutions. Social reform transformed prisons, education, health, labor practices, slavery, religion and women's roles in society, including their positions in professionalized medicine.

Women were the mainstay of the health reform movement. Feminists and suffragists embraced self-health as a form of self-determination. Women were encouraged to acquire medical knowledge in order to be better mothers, wives and homemakers. Coupled with this encouragement was a long-established image of women as healers. Despite the denial of training and titles by administrators of U.S. medical schools and members of the newly established American Medical Association (AMA), women generally were accepted as herbalists, midwives, masters of minor surgery and nurses within their families and larger communities.

There were class differences in the popularity and utilization of male practitioners versus women healers. Blacks, who were automatically excluded from most services available to whites, relied on folk medicine, oral traditions and skills of women for their cures. Immigrant women preferred using midwives in America, as they had done in their native countries. Ironically, within the white upper and emerging middle classes that embraced the newly trained and professionally recognized male physicians, the health of women suffered. The overbearing value of female modesty in Victorian America made it painfully difficult for women to seek advice and to submit to examinations and treatment at the hands of men.

By mid-century, a variety of factors merged: 1) the seeds of the health reform movement, with its message of self-health for women, were planted; 2) a need for women practitioners to care for other women was evident; 3) the tradition of women as health care providers was still strong; and 4) the exclusion of women from the institutions teaching advanced health care was no longer acceptable. At the junction of these events and problems came the response to establish opportunities for women to learn modern medicine and to practice within the tradition of women as health care providers.

In 1850, the Woman's Medical College of Pennsylvania (WMC) was founded in Philadelphia. Thus was established the first and, eventually, the only extant medical college for women in the world.

The founders of WMC were Quaker men who were influenced by the factors mentioned above and by their association with women who wanted to learn medicine formally—women who had sought public training but were forced to rely upon private resources for their medical education. These resources were often family and friends who were physicians and who had opened their libraries to them.

On March 11, 1850, the Female Medical College was incorporated by Act of Assembly in Harrisburg, Pennsylvania. The discussion leading to incorporation was reported as being short and favorable. The school was chartered under the name The Female Medical College of Pennsylvania, but due to the fact that other species besides humans were designated male and female (such as female dogs and female horses), it was thought to be more respectful to rename the school. In 1867, the appellation of the Woman's Medical College of Pennsylvania was chosen.

With incorporation coming so easily, WMC's beginnings were encouraging. Unfortunately, its continuation was not as smooth. It may have been the middle of the reform movement, but not everyone wanted to change everything. A year after the school opened, at graduation ceremonies for the eight women who had earned their medical degrees, five hundred male medical students from other schools in Philadelphia gathered to taunt and to pelt the graduates and their guests.[7] Fifty police were dispatched to maintain order.

As public outcry increased, the Philadelphia County Medical Society reported in 1858 that it would "recommend the members of the regular profession to withhold from the faculties and graduates of female medical colleges all countenance and support, and that they [could not], consistently with sound medical ethics, consult or hold professional medical intercourse with their professors or alumnae."[8] Other similar resolutions plagued the faculty and students of the college.

In 1867, Dean Ann Preston replied to the medical society's latest round of resolutions against women as physicians and medical students. She answered via the same organ the society had used, *The Medical and Surgical Reporter.* Hers was a clear-sighted response that used arguments of nineteenth-century feminism with impressive strength and determination. Preston concluded:

> ...on behalf of a little band of true hearted young women who are just entering the profession, and from whose pathway we fain would see impediments and annoyances removed, we must protest, in the sacred name of our common humanity, against the injustice which places difficulties in our way, not because we are ignorant, or pretentious, or incompetent or unmindful of the code of medical or Christian ethics, but because we are women.[9]

As if to add insult to injury, the medical society proceeded to pass a resolution barring members who accepted employment at any female medical college (1868) and at Woman's Medical College (1869).[10]

At the centennial celebration of WMC in 1950, medical historian Richard H. Shryock spoke of the "multiple lines of conservative defense" used against women gaining full admission to medicine and noted "if one were scaled, the opposition re-formed in the rear."[11]

The college continued to struggle against social as well as economic setbacks that closed numerous other women's and minorities' medical schools. The Civil War and the post-war hardships that continued to weaken the South and later the 1910 Flexner Report on "Medical Education in the United States and Canada" were two events which heralded the demise of many of these institutions.

At the time of Flexner's report in 1910, the largest number of women physicians in the United States was recorded. Still, this number only comprised 6 percent of all physicians. This was the golden age of women physicians. The number dropped sharply afterwards. It was not until the 1950s that that percentage was recouped and finally surpassed in the 1970s, but only by an additional 2 percent.[12] As recently as 1977, more than one-third of medical specialties had no women among their residents.[13] In 1980, there were 54,284 women physicians, or about 12 percent of the total number of physicians.[14]

Among students, women comprised one-third of the 1983/4 entering class of medical schools nationally. At The Medical College of Pennsylvania, the name WMC took in 1970 after it had accepted male students in 1969, the student body is 60 percent women to 40 percent men.

Within the confines of WMC, opportunities to work and models of women physicians abounded. Beyond this rarified environment, the availability of positions and opportunities to practice were greatly diminished. When practicing her trade, a woman physician was often the subject of blatant ridicule and discrimination. Therefore, women had to create their own opportunities. They went where male physicians feared to tread and where medical care was so badly needed that the sex of the doctor did not matter to the patient. Women became public health workers (and eventually a few became public health administrators), medical missionaries, settlement house physicians, and in World War I, provided care when and where there were no men.

The photographs included in this essay are dated prior to, or including, the period around World War I. There are half a dozen photos from the early 1930s, but they are pictorial extentions of this history. In fact, the opportunities to practice and the services depicted in the later photos stem directly from the founding of the Woman's Medical College or the expanded work of the American Women's Hospital Services, major examples of women building upon their own opportunities.

VIEWING THE PHOTOGRAPHS

In a series of essays entitled *On Photography*, Susan Sontag wrote, "... while paintings or poems do not get better, more attractive simply because they are older, all photographs are interesting as well as touching if they are old enough. It is not altogether wrong to say that there is no such thing as a bad photograph—only less interesting, less relevant, less mysterious ones."[15]

Pertinent to any sensitive examination of photographs are suggestions of ways in which photos can be viewed and enjoyed in their own right. Photographer Robert Frank's credo states that "there is one thing the photograph must contain, the humanity of the moment."[16] What makes the photographic images of another time or place immediately recognizable and enjoyable now, in this time, at this place, is the common humanity shared by the subject of the photo and the viewer. An emotional response to the content of the picture temporarily obliterates any considerations for technical skills or historical context.

Eventually, however, the intellect regains control and with it comes the realization that there are questions which can be asked of a photo and its maker which permit an even deeper appreciation of its power and beauty. Perhaps there is really only one question: What does the photographer want observers to see? It takes several smaller questions to come to any conclusions, however.

Daniel M. Fox and James Terry have put a great deal of thought into looking at historic medical photographs. They suggest that a photo be treated, initially and temporarily, as a "self-sufficient 'text' in visual terms."[17] The subject of a historical photograph must be studied and questioned apart from her historical context. This means paying attention to the treatment of the subject and details within the frame of the photograph.

In fact, the very framing of the subject is extremely important. Photographers, by virtue of what they include or exclude in photos, establish a relationship among the elements of their photos which may be true or false in "real" life. Observers cannot take for granted that a relationship existed prior to the photographer's intervention. Based upon the photographer's purposeful juxtaposition of elements, observers are given some of their strongest clues as to what the photographer wants to be seen.

The point at which the photo is taken—that instant the shutter opens—becomes an important factor, too. French photographer

Henri Cartier-Bresson calls this point the "decisive moment."[18] Unless there are descriptive notes from photographers, viewers must guess why they waited for specific poses from their subjects—be it the work of studio photographers or photojournalists. Through the finished photograph, observers are directly in line with the photographer's eye and see what appeared through the view finder. By trying to imagine why a particular moment captured in a shot seems to convey the essence of the event, observers enter the photographer's mind and watch the scene unfold themselves.

The photographer's presence may be felt in a photograph—not through the identifiable touch of Alfred Steiglitz or Imogene Cunningham, but by the physical presence of the photographer on the scene. Fox and Terry ask, "If people are present in the image, how conscious are they that a picture is being made?"[19] Subsequently, how do observers react themselves to the people reacting to a photographer? Was the photographer hoping for a candid slice-of-life shot or did she want the subject to interact with her and possibly reveal a new dimension of personality?

Lewis Hine consciously posed young, worn, wistful girls next to their gigantic threading machines during his labor campaign. They gaze directly into his camera. Dorothea Lange posed a depression-era mother several times to create an immortal image of despair and poverty immediately recognizable. The mother looks away, lost in her thoughts of how she and her children will survive. Richard Avedon strips the façade from famous people when he takes them head on, so to speak, against a stark background. There is no one else with whom the subject can interact but Avedon. All these images, strongly influenced by the presence of the photographer, make a memorable statement and force observers to see what the photographer wants them to see.

Yet, as we look, aren't we actually voyeurs? Reading old letters or diaries gives that feeling at times. Most often the exchange of letters was never meant to include any more than two people. The nature of photography, however, is far more public and requires the intrusion of mechanical equipment. Unless the photo is a self-portrait, the *least* number of people involved is two and the number increases rapidly to include the developer, if she is not the same individual as the photographer, and the intended audience for the picture.

The intended audience is another consideration for analyzing the text of a photograph. For whom was the photo intended? Esther

Pohl Lovejoy obviously wanted her AWHS women to be seen by everyone. In Victorian England, Julia Margaret Cameron had a much smaller audience in mind as she posed milkmaids and mailmen in her shed/studio in the garden.[20]

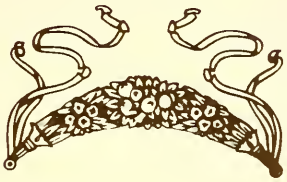
Now, each reader is a member of the audience—an audience that photographers might not have anticipated fifty to one hundred and forty years ago. For this reason, I will endeavor to place these photographs in an historic context, determining what the photographer wanted to be seen and, most importantly, experiencing "the humanity of the moment."

A SPECIAL CONSIDERATION

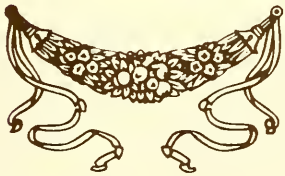
As Fox and Terry reviewed thousands of photos for their research, they overlooked photographs and images of women in medicine. In their article, their emphasis is on male physicians with accompanying illustrations. There are different experiences and values conveyed through the images produced by and of women. Above all else, the images establish a model of behavior for both the subject and for the observer. The captured image becomes its own reality. How can the presence of women in medicine, their history and influence, be denied if there is photographic documentation of that event?

The photo takes on an iconographic power. Observers may not have witnessed the actual event, but they *do* experience the image presented in the photo. Once that image is absorbed, it should not be startling to see women in those roles within a personal realm of experience.

Women in Health Care Delivery:



The Photographs



The oldest image in the photo exhibit is of Dr. Ida B. Scudder studying anatomy while a student at the Woman's Medical College in 1895 and 1896. This photo, and several other amusing snapshots, comes from a student's scrapbook. The unique and commonplace qualities of this image strike observers simultaneously. Here is a young student doing her homework, an occupation with which everyone can identify. But the student is a woman, the date is 1895, and she is studying anatomy. Observers who put those ingredients together know that this is a special photograph.

Other elements of the unique and the commonplace begin to emerge, especially when viewing other photos from this series. There is humor in the approach this woman and her friends take to their work and serious respect for the work they are doing. The separation from this scene by time increases appreciation for the setting, clothes, hairstyles and furnishings.

The twenty-two illustrations featured in this essay have been included through the kind permission of the Archives and Special Collections on Women in Medicine, The Medical College of Pennsylvania.

The women in this photograph are interns at the Woman's Hospital of Philadelphia, 1903. This hospital was next door to the North College Avenue site of Woman's Medical College, but was not part of the institution itself. The hospital was very important for the continuation of the medical education of the college students, however, because women at that time were still having difficulty procuring clinical experience in other city hospitals. Until the college and the hospital ended their alliance and the former began to build its own hospital in 1907, this was one of very few hospitals open for female interns.

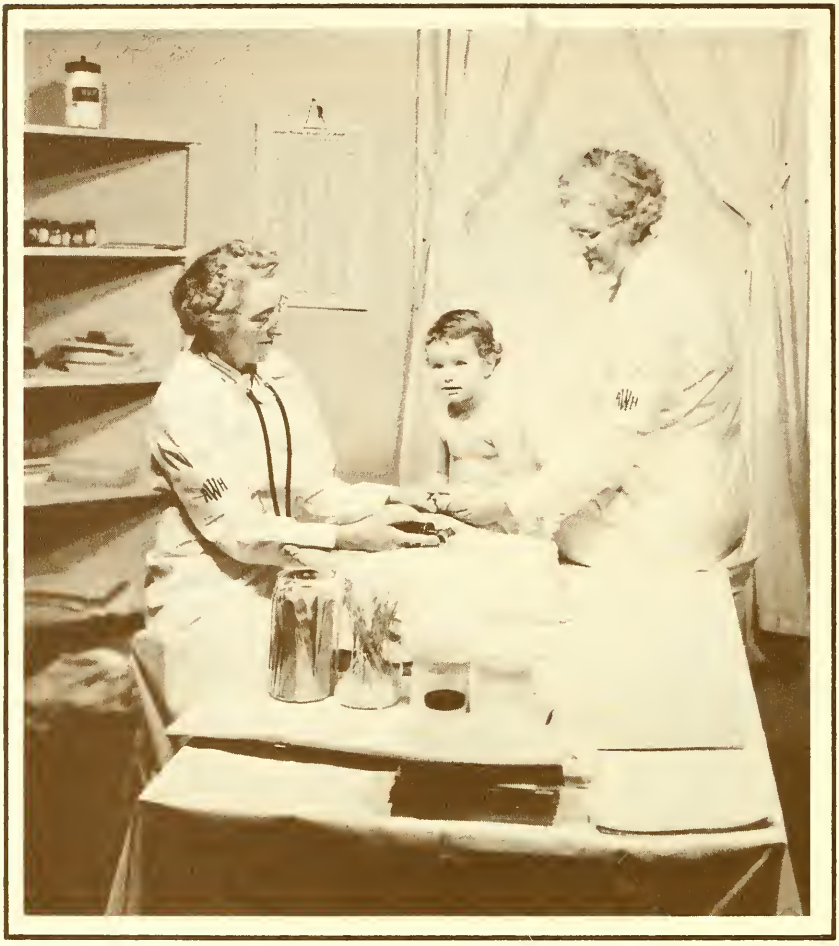
There are two students of note in this photo. Top row left is Ellen Culver Potter, who became a chief administrator of public health and social welfare programs, first in Pennsylvania and then in New Jersey. She was a professor of the school and the life-long friend of Martha Tracy, who became the dean of the college. On the bottom rung, to the right, is Lillie Rosa Minoka Hill, the second native American woman to attend and to graduate from WMC. She was reared on the East Coast, but moved to Wisconsin and served as a physician for the Oneida Nation on their reservation, using her kitchen as her office.

This beautiful professional photograph provides an enormous amount of information about medical education, surgical procedures and operating room architecture, circa 1903. Some of the more obvious things one notices are the proximity of students to the operating table and the fact that they are in street dress, the anesthesiologist and her technique, and the use of rubber gloves but no surgical masks. Observers may question what has been included, or excluded, in the camera frame. How does this compare to amphitheatres in co-ed or all male schools?

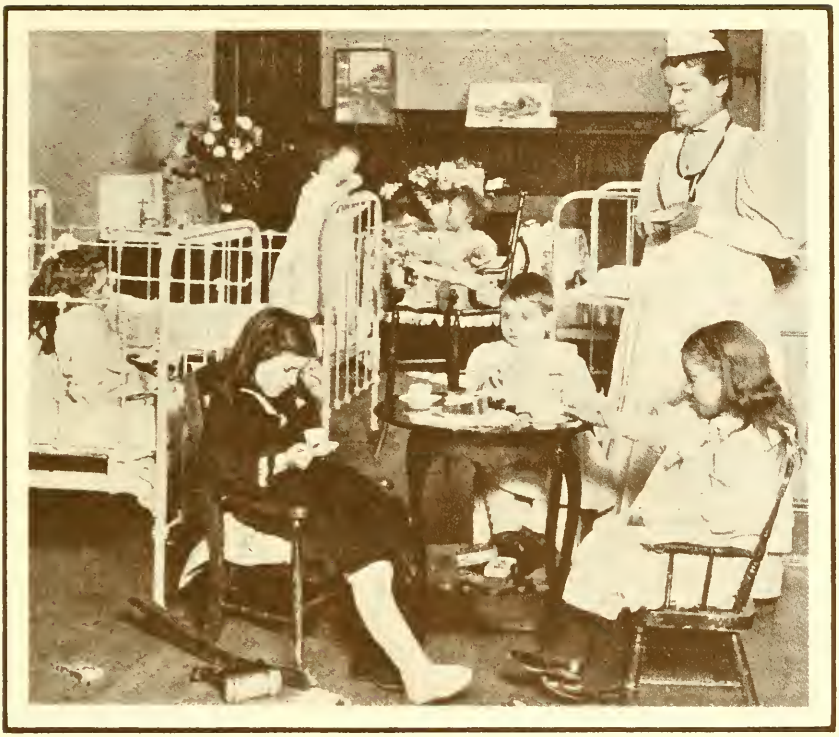
This is an example of an image cast before us, a model put into the mind's eye. Having seen this image once, of women as surgeons and students of medicine, it is natural to expect to see it again in our own world.

In a world that did not expect or encourage women to be physicians, it is ironic that there are specialties which became closely associated with women, one of which is pediatrics. The next several images illustrate the wide range of settings in which women served this all-important population of children.

From the AWHS collection, circa 1930, comes this image of a visiting nurse at an Appalachian home. This group also did a fascinating photographic survey of nutrition and diet-related diseases, the remnants of which are in this photo collection at the Archives and Special Collections on Women in Medicine. The photos of children and their parents include descriptions of the diseases and the symptoms manifested by the subjects of the photos. It is valuable documentation of how the depression specifically marked the lives of people in this mountain region.



This photo also is an image from the AWHS collection, circa 1930, showing the clinical facilities available in Greenville, South Carolina. Notice the highly visible and legible armbands.



An earlier era provides this image of a nurse supervising a nursery tea party at the Woman's Hospital of Philadelphia in 1897. This photo comes from a very special little book, written by students of the college, and entitled *Daughters of Aesculapius.* (Nineteenth-century women physicians called themselves the daughters of Aesculapius in response to male physicians who called themselves sons of Aesculapius—that is, the offspring of the Greco-Roman god of medicine.)

The book contains several short stories about people and life at the college in this period. It is an endearing insight into the friendships and pastimes of the students and professors. The story for which this is an illustration includes the children in this picture and the little girl in a cast as its characters.

This far more modern solarium is dated 1931, and is in the hospital of the Woman's Medical College, a different facility from the Woman's Hospital of the preceding picture and from the college hospital built in 1907. Nevertheless, the similarities between the images are more striking than the differences.

The children at the table echo the tea party and the posture and placement of the nurse very nearly mimics the nurse of 1897. The bandaged ear on the little boy in the foreground draws attention, as does the little girl with the cast on her leg. This is a reminder of the prevalence of mastoid operations, something that does not threaten children now as it did fifty years ago.

When facing an image as fresh and clear as this one, it is a jolt to realize fifty years have elapsed since this particular event was recorded.

This picture is a dramatic re-creation that can be read two ways. First, it is documentation of a childhood illness which no longer threatens as it did in the nineteenth and early twentieth centuries. This doctor is paying a house call during a diphtheria epidemic, an event which demanded long night vigils to prevent a child from choking to death or to watch as the child did choke to death. Second, it is a "feminization" of a very popular Victorian painting by Sir Luke Fildes called "The Doctor," which hangs in the Tate Gallery in London. This photo is dated 1920 and Dr. Agnes Hockaday, a WMC graduate, portrays the physician at the center of the scene. There are no other details about why the picture was taken, but the duplication of details is very precise, from the tilt of the lampshade to the grieving mother. The painting was a popular one and whoever set up the shot was very familiar with it.

This purposeful duplication of a recognized painting harkens back to early stages in the development of photography. When photographers were first attempting to establish photography as an art, they relied heavily upon traditional artistic convention and mimicry to shape their work. Eventually, these pioneers realized the standards of one medium imposed upon another restricted the potential of photography. Once freed from those standards, photography as an independent craft soared, expanded the definition of art, and literally changed the way people see.

Another specialty taken on by woman physicians was prenatal and obstetrical care, in deference to the modesty of women in Victorian society. This 1930 photograph is of a prenatal check-up at the Amy S. Barton Dispensary of the Woman's Medical College. The dispensary was established in the same neighborhood as the college for two reasons rolled into one: need. It was needed by the neighborhood residents and the medical students. Photographs show an immigrant, minority and working class population using the dispensary and students and practitioners gaining clinical experience not available to them elsewhere in the city. Users and dispensers of the services benefited.

The history of women in medicine in general and of women in obstetrics and gynecology in particular must include midwives. This photo from the American Medical Women's Association collection at the Archives is dated 1930, but exemplifies a tradition that stretches for centuries. This image is identified as a Virginia midwife and is one of a series of photos taken between the 1920s and 1930s, some of which have handwritten notes on the back. This pictorial survey of midwives was launched originally to discredit the women who continued to practice midwifery. Notes include comments on the literacy, cleanliness and morality of these women, black and white. Ironically, these photos now serve to credit the women who maintained their practices and withstood the encroachment of the established medical profession.

Even as late as 1930, this woman fulfilled a timeless concept of a rural midwife, dressed for her traditional role in health care delivery.

In striking contrast is this photo of a woman in a non-traditional health care role as a dentist in France in 1918. Note her armband to see which collection this picture comes from. Taking into account the organization, the geographical location and the date, observers can infer this woman is providing services for Europeans devastated by World War I.

Women in dental school and as dentists still are scarce. But now that this model has been introduced to us, we can learn to expect it within our own experience. There is a particular beauty to this photo, with the lighting and the balance of the figures.

This scene portrays the nursing office at the Woman's Hospital of Philadelphia, 1911. The photograph is a tribute to nursing—a role that is recognized as more traditional for women in health care delivery. This highly feminized profession has been a boon and a bust for women pursuing careers in medicine. Initially viewed as a profession unfit for women, it came to be viewed as the *only* facet of medicine women were fit to enter.

Historically, as certain professions became the province of women—nursing, teaching, clerical/secretarial work and sewing, among others—they became devalued socially and economically. It was assumed that since these were tasks similar to services women provided for free inside the home, it was not necessary to remunerate women for such services outside the home. Women who sought independence through work outside their homes found their freedom severely curtailed by long hours and little pay. Eventually, these circumstances and the hierarchy of the medical profession created enough frustration and, therefore, motivation for nurses to unionize and to strike in some areas for better pay and more autonomy as medical professionals.

The woman in this touching photograph is worthy of an entire essay in her own right. She is Dr. Mary Edwards Walker, the only woman to receive a Congressional Medal of Honor for her battlefield service as a doctor during the Civil War. As the only woman, Walker was then told she would have to give her medal back. She refused. After a long struggle on the part of her descendants, she was re-awarded the honor posthumously, even though she had kept and worn the medal until her death. A commemorative stamp was issued in her honor in 1982.

Mary Edwards Walker was not the type of person the United States government wanted wearing the Medal of Honor. She was a suffragist, an outspoken supporter of women's rights, and a blatant advocate of dress reform for women. She was considered eccentric and by the end of her life, after years of ridicule and trying personal and political battles, may well have been.

The Archives and Special Collections on Women in Medicine has an extensive collection of photographs of Walker, almost all of which show her in some style of pants, depending upon the era. As an older woman in her tuxedo, top hat, close cropped hair and with her medal pinned to her lapel, she looked like a small and wizened man.

Although she had become an historical joke, the blossoming of women's history and efforts to resurrect forgotten or misunderstood women from a male-defined past provides a chance to re-examine the lives of women such as Walker. A feminist perspective brings the fuller woman to light, not just an eccentric in pants.

Walker herself had a strong sense of personal importance, and even historical significance. The bulk of the photos in the collection are studio portraits which indicate Walker's efforts to chronicle her life. The photographs are part of the Lida Poynter Collection of manuscript materials on Walker. This portrait is dated 1912; Walker died in 1919.

Remembering that wars provide work and opportunities to groups denied such opportunities in peacetime (and thus perpetuating the illusion that a wartime economy is a healthy economy), the next photographs from the AWHS collection are of women in health care delivery in Europe during World War I.

These women follow Mary Edwards Walker's footsteps more closely than they could have known. Though none of the women shown here received medals of honor from the U.S. government for their wartime service, they too have been stripped of their proper recognition. Again, it was Esther Pohl Lovejoy who constantly urged that their work be documented and photographed. Each image stretches the boundries of impressions of what women have done and can do.

The first photo in this series shows Dr. I. Jay Manwaring, a 1895 graduate of Woman's Medical College of Pennsylvania, returning with a patient to the AWHS Hospital in Luzancy, France, circa 1918. In this one photo, four of the roles women took on in this service are portrayed. There is a driver of the ambulance to the right; Dr. Manwaring in the dark glasses; the nurses holding the litter; and the woman receiving the patient at the door, presumably a clerk or administrator.

Inside the women's ward of this hospital in Luzancy, Dr. M. Louise Hurrell and Dr. Inez C. Bentley review charts. It is difficult to know what services would have been available to these patients if the American Women's Hospital Services had not built and staffed this hospital.

The services provided during the wars seem to be dominated by Americans. In Greece, during this same war and post-war period, American physicians and administrators eventually relinquished their posts as local staff gained the training necessary to run the established facilities. Similarly in South America, local people fill key staff positions in facilities founded and funded by AWHS.

This is a lovely photograph and a poignant reminder of the results of war. Dr. Hunt and Dr. Hurrell pose with an unidentified nurse decorating solders' graves behind the Luzancy hospital. (Out of frustration and curiosity, one wonders why the nurse's name was not recorded.)

This is Dr. M. Ethel Fraser, Director of AWHS at La Ferte-Milon, France, visiting the sick in her district, circa 1918. Scenes such as this continued after the war ended.

Unlike many military agencies, AWHS recognized that the recovery period *after* a war was as difficult for civilians and returning military personnel as the years of deprivation and devastation they endured during the war itself. This expansion of services also meant an expansion of the territory AWHS covered. It meant a continuation of services that eventually encompassed the United States during the depression—to Japan and Korea and South America.

Dr. Mary Evans shown here in the laboratory of the Luzancy Hospital. Although not a startling picture, it is a beautiful one in its own right. The scene is an interesting comparison to the next photo, shown on the facing page, taken some eleven to twelve years later.

This photograph is of Martha Tracy, M.D., a 1904 graduate and subsequent dean of the WMC of Pennsylvania from 1917 to 1940. This is a snapshot, very likely by Tracy's life-long companion Ellen Culver Potter, but it carries the same weight as the professional photograph of Evans at the microscope. The credibility of these women as physicians was challenged constantly. Always under pressure to prove themselves, they continued to research, study, update and expand their knowledge and techniques. Diligence, as much as courage and talent, contributed to their success and the begrudgingly bestowed respect of the male medical community.

This photo also gives us a chance to stop and to consider some of the questions posed on how to read a photograph. Assuming the photographer was Potter (this photo is from Potter's collection), it may be interesting to question what she might have excluded from the frame. Were there others working in the lab or was this a quiet moment with only the two of them in the room? If that is the case, the moment takes on a more intimate air. Also, why is the photo taken from the side? Was the photographer limited by space or lack of imagination? Potter has written of the calm beauty she always admired in Tracy. Perhaps, for her, this is the angle that best reveals a combination of Tracy's qualities, including beauty, dedication and intelligence.

The last photo of the exhibit carries its own historical significance, regardless of the sex of the practitioner or the date of the photograph. The house call, obviously a posed shot, is nevertheless an accurate depiction of the work women took on and the opportunities they seized in order to practice their hard earned profession. It is interesting to note that though the doctor is posed and "oblivious" to the camera, the supporting cast seems not to have been as well rehearsed and takes full note of the presence of the camera.

This picture is from a publication of the Woman's Medical College of the 1910s.

CONCLUSION

All these photographs, and the nearly 12,000 others in the Special Collection on Women in Medicine at the Medical College of Pennsylvania, provide excellent illustration of the history and imagery of women. Earlier male-dominated perceptions of people and events have left little room for the talents and dreams of women wanting to try something different, something their mothers never dared. Today, there are images of women as astronauts, vice-presidential and presidential candidates, governors, athletes, construction workers and physicians. A legacy of possibilities for future generations has been created. A history of possibilities has been there all along. These photographs are a means of grasping that history and taking advantage of those models now.

Since this essay includes a combination of photographic and medical history, it has not been difficult to discuss medicine and photography in the same breath. Both have been described as or considered an art, yet both rely upon science and technical research for their development, not to mention a certain amount of sensitivity on the part of the practitioner. Medicine is a fascinating subject for photography and photography serves medicine well in portraying the ideal and real images of the profession.

When viewing these photos, linger with them and consider their power, singly and collectively, in conveying the history of women in medicine and thus in shaping the future of women in the world.

This essay on women in health care delivery is an adaptation of a traveling exhibit of twenty late nineteenth- and early twentieth-century sepia photographs depicting women's participation in research, nursing, midwifery, dentistry, clinical practice and war relief. For further information on the rental of this intriguing photo exhibit, please contact the Archives and Special Collections on Women in Medicine at The Medical College of Pennsylvania, (215) 842-7124.

NOTES

1. Lewis Hine became famous with his photo documentation of child laborers in cotton mills and coal mines—an endeavor which helped initiate labor reform in the United States. Hine is quoted in Susan Sontag, *On Photography* (New York: Delta, 1973), p. 185.

2. Beaumont Newhall, *History of Photography* (New York: Museum of Modern Art, 1964), p. 22.

3. The distinction between untrained and unschooled is important because there is a great deal of training required for practitioners of herbal medicine or midwifery.

4. Quoted from Regina Markell Morantz, "From Art to Science: Women Physicians in American Medicine, 1600-1980," in *In Her Own Words: Oral Histories of Women Physicians*, edited by Regina Markell Morantz, Cynthia Stodola Pomerleau and Carol Hansen Fenichel (Westport, CT.: Greenwood, 1982), p. 6.

5. "Regular" medical schools should be distinguished from those schools which were designated as "irregular" and which taught medical practices such as Thomsonianism, homeopathy and Eclectic medicine.

6. Of particular interest on this subject is the essay by Daniel M. Fox and James Terry, "Photography and the Self Image of American Physicians, 1880-1920," *Bulletin of the History of Medicine* 52(1978): 435-457. See especially the reference to positive reinforcement on p. 443.

7. Among the graduates of that class were Hannah Longshore, the first woman to hang her shingle as a physician in Philadelphia, and Ann Preston, the first woman to become dean at WMC in 1866, and, thereby, the first woman dean of any medical school.

8. Quoted from Clara Marshall, M.D., *The Woman's Medical College of Pennsylvania: An Historical Outline* (Philadelphia: P. Blakiston, Son & Co. 1897), pp. 53-54.

9. The quotation by Ann Preston, M.D., is from "Women as Physicians," *The Philadelphia Medical and Surgical Report*, 22 April 1867, in *The Eighteenth Annual Announcements of Woman's Medical College* (Philadelphia: Jas. B. Rodgers, 1867), p. 4.

10. Marshall, *Woman's Medical College of Pennsylvania*, 53-54.

11. Quoted from Richard H. Shryock, "Women in American Medicine," *Journal of the American Medical Women's Association* 5(9):375

12. See Harry Schwartz, "Physician Supply: A Generation of Rapid Growth," *Medical Affairs Quarterly* 2(1984):1-9. The figures quoted are listed on p. 5.

13. See Renie Schapiro, "Women in Medicine: The Choices and Challenges," *The New Physician* March (1984): 10-42.

14. Schwartz, "Physician Supply," p. 5.

15. Robert Frank is quoted by Susan Sontag in *On Photography*, p. 122.

16. Sontag, *On Photography*, p. 141.

17. Fox and Terry, "Photography and the Self Image of American Physicians," p. 445.

18. Alfred A. Blaker, *Photography Arts and Techniques* (San Francisco: W.H. Freeman & Co., 1980), p. 25.

19. Fox & Terry, p. 445.

20. Cameron, a friend of Alfred Lord Tennyson's, eventually illustrated his *Idylls of the King* with her work.

Lillie Rosa Minoka Hill, M.D., graduate of the Woman's Medical College, Class of 1899. Dr. Hill is pictured here in the kitchen of her Wisconsin home in 1949, attending a young neighbor.

AUTHOR

Jill Gates Smith has been actively involved in the collection and preservation of women's historic documents and photographs since 1980. A personal quest for the story of her family's foremothers prompted her to seek advice from a nascent history project at the University of Washington. Volunteer work for the Washington Women's Heritage Project led to the position of regional co-ordinator in the Seattle office.

In 1981, Ms. Smith moved to become field specialist for the Women's Studies Archives Project at Bowling Green State University in Ohio. Upon completion of this project, Ms. Smith moved again to accept the position she presently holds as Curator of Non-Print Materials at the Archives and Special Collections on Women in Medicine, The Medical College of Pennsylvania.

Ms. Smith's professional work remains a personal quest and, in her eyes, has become a political action. Learning one's history is among the first radical steps one takes in regaining full and equal social and economic recognition. As an archivist/historian, Ms. Smith's work is directed towards encouraging women to value their personal documents, to recognize their place in the context of specific social movements, and to contribute the documents of their lives to archival collections.

Ms. Smith is currently enrolled in a master's degree program in history at Temple University. Her studies focus on methods of interpreting further the photographic images of and by women.

German physicist Wilhelm Conrad Roentgen (1845-1923) was awarded the Nobel Prize in physics in 1901 for his momentous discovery of x-rays in 1896. (Reproduced from Otto Glasser's *Dr. W. C. Roentegen,* published in 1945 by Charles C. Thomas. Photo courtesy of Charles C. Thomas, Publisher, Springfield, Illinois.)

GLIMPSES OF THE BODY'S INTERIOR

by Lisa Dziabis

Looking into the human interior has not always been as simple and painless as performing an x-ray. Medical technology has made remarkable progress over the last few decades, providing a variety of noninvasive techniques such as NMR (nuclear magnetic resonance), CT (computed tomography), nuclear medicine and ultrasound. Such technological advances have afforded medical science painless, noninvasive procedures that can be used to view/study the human interior and diagnose disease.

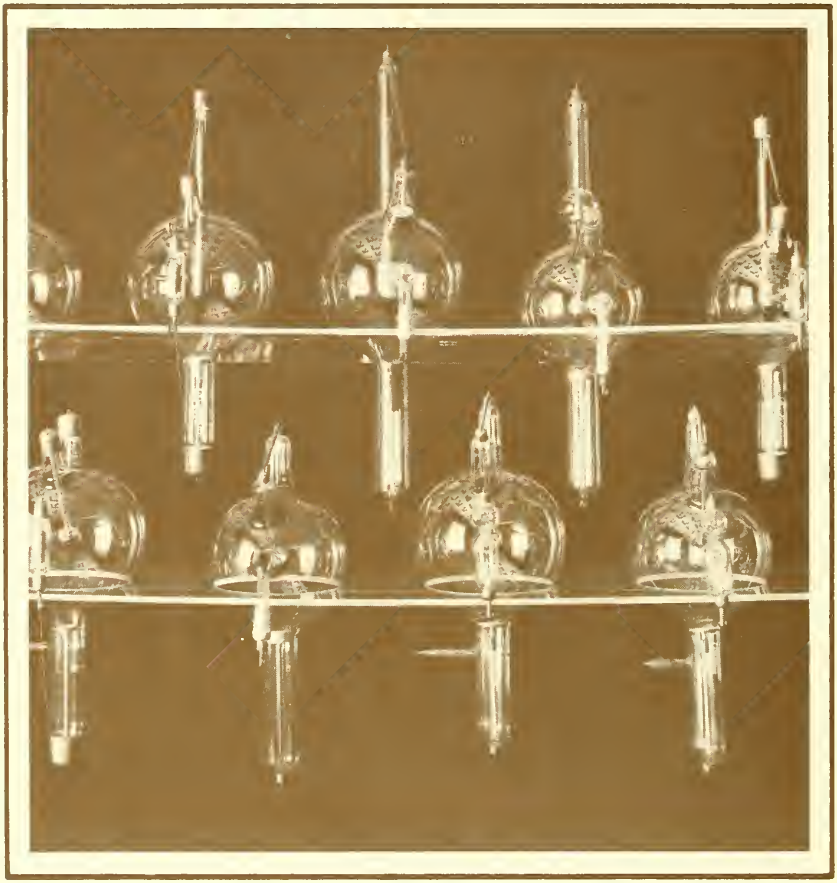
Before the invention of x-ray, knowledge of the body's interior was very limited. In ancient times divination, magic, and the experimentation and writings of a few investigators were the only means of diagnosing and studying the human interior. As early as 3000-2000 B.C., hepatscopy, a primitive form of obtaining information about the interior of a human being and diagnosing illnesses was practiced in various forms by Ancient Babylonians, Greeks, Etruscans, and Romans. Hepatscopy involved having the patient breathe into the nose of a sheep. Then the sheep was slaughtered and a "reading" of its liver supposedly indicated the nature of the disease and the prospects for the patient's recovery. Ancient clay models of sheep livers used in the recording of medical diagnosis have been unearthed in excavations and seem to suggest the significance put on the body's interior in the diagnosis of disease.

In Egypt the practice of embalming and mummification, probably more than any other known practice, advanced the knowledge of the interior of the body and how it functioned. Canoptic jars were used by Egyptian embalmers to preserve the organs and viscera of the dead. The designation of each jar containing an organ to a god for protection suggests a knowledge of the human interior as well as an importance attributed to certain organs.

Not until the Renaissance, when artist and physician worked hand in hand to understand human anatomy did the knowledge of the interior structure and its functions begin to emerge. Procedures to visualize, study or diagnose disease in any part of the body remained extremely risky for the individual and invasive methods prevailed to expose parts of the body for examination. It was through such practices that the research and detailed experimentations and drawings of such individuals as Leonardo Da

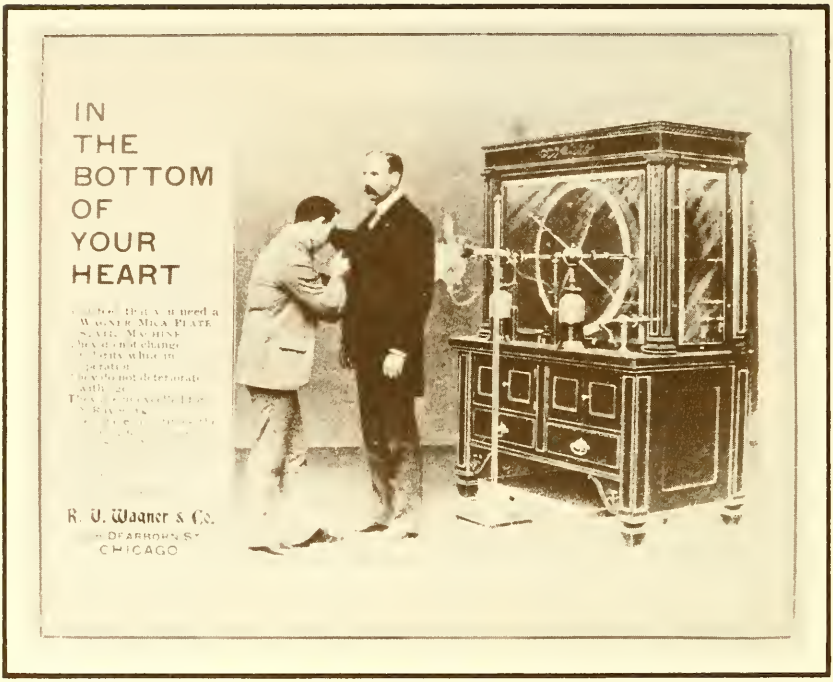
Vinci and Andreas Vesalius were made. Their work contributed significantly to advances in knowledge of the body's interior.

From the Renaissance and into the eighteenth century, knowledge of the human interior progressed very little. The writings and drawings of earlier scholars were still the main source of information regarding the positions and functions of interior structures. A turning point came though in 1822, when Dr. William Beaumont, a surgeon in the U.S. Army stationed at Fort Mackinac, was called to provide medical assistance to Alexis St. Martin, a Canadian voyageur who had been accidentally shot in the stomach. St. Martin's wound healed in such a manner as to allow Dr. Beaumont the opportunity to view the interior of the stomach and



The key to the production of x-rays was x-ray tubes such as these. Originally each tube was handblown and individually tested. The largest collection of x-ray tubes was recently donated to the Department of Radiology at The Johns Hopkins Hospital in Baltimore by William H. Shehadi, M.D. (Photo courtesy of The Pearson Museum.)

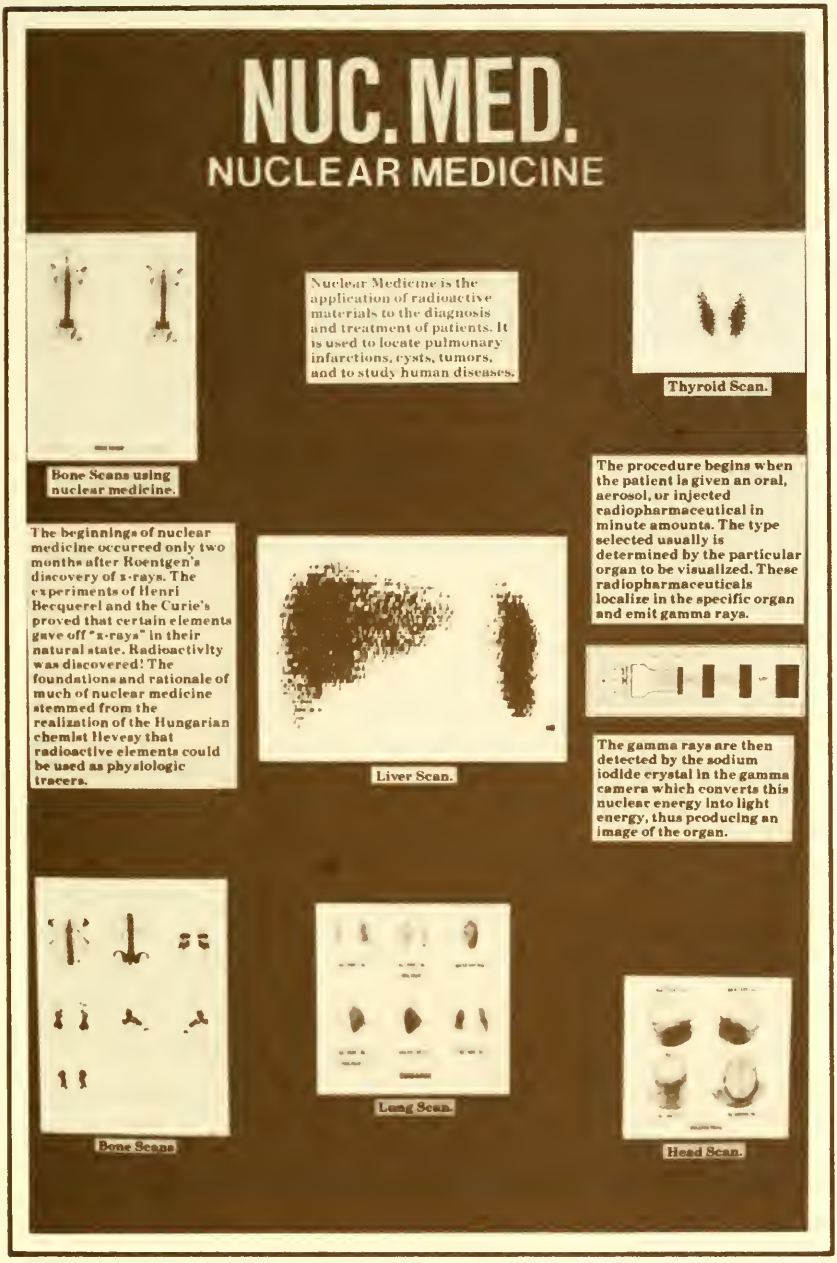
Rome Wagner floroscoping a patient at the Wagner Mica Plate Static Machine. The shield around the x-ray tube in the foreground is an example of an early protective device. (Reproduced from E.R.N. Grigg's *The Trail of the Invisible Light,* published in 1965 by Charles C. Thomas. Photo courtesy of Charles C. Thomas, Publisher.)



This early advertisement for the R.V. Wagner & Co. of Chicago promotes Wagner's improvements on earlier versions of the Wagner Static Machine. The addition of mica plates instead of the heavier lead glass plates allowed for increased acceleration and improved the efficiency of electrical output, causing speeds to jump from 300 rpm to 2000 rpm. Nevertheless, there were still a number of complaints about the new-fangled machine, as exemplified in the following narrative:

> "Static machines sometimes changed polarity in the middle of a seance. They had as many uses as a woman can find for a pin; one could treat (and some did) almost anything from "rheumatiz" to fallen arches, and the psychic effect of a red-hot four-inch spark was rather torrid! You had a convert right then and there; incidentally the convert had a blister, but blisters didn't count."

(Quoted from F. S. O'Hara, M.D., *"Radiology and Clinical Photography,"* published in 1932 by the Eastman Kodak Co. in Rochester, New York. Photo courtesy of the Historical Division of the Cleveland Health Sciences Library.)


NUC. MED.
NUCLEAR MEDICINE
Nuclear Medicine is the application of radioactive materials to the diagnosis and treatment of patients. It is used to locate pulmonary infarctions, cysts, tumors, and to study human diseases.
Thyroid Scan.
Bone Scans using nuclear medicine.
The procedure begins when the patient is given an oral, aerosol, or injected radiopharmaceutical in minute amounts. The type selected usually is determined by the particular organ to be visualized. These radiopharmaceuticals localize in the specific organ and emit gamma rays.
The beginnings of nuclear medicine occurred only two months after Roentgen's discovery of x-rays. The experiments of Henri Becquerel and the Curie's proved that certain elements gave off "x-rays" in their natural state. Radioactivity was discovered! The foundations and rationale of much of nuclear medicine stemmed from the realization of the Hungarian chemist Hevesy that radioactive elements could be used as physiologic tracers.
Liver Scan.
The gamma rays are then detected by the sodium iodide crystal in the gamma camera which converts this nuclear energy into light energy, thus producing an image of the organ.
Bone Scans
Lung Scan.
Head Scan.

This panel in The Pearson Museum exhibit relates the story of nuclear medicine. Illuminated from the back, it illustrates scans of the bones, liver, lungs, thyroid and head. (Photo courtesy of The Pearson Museum.)

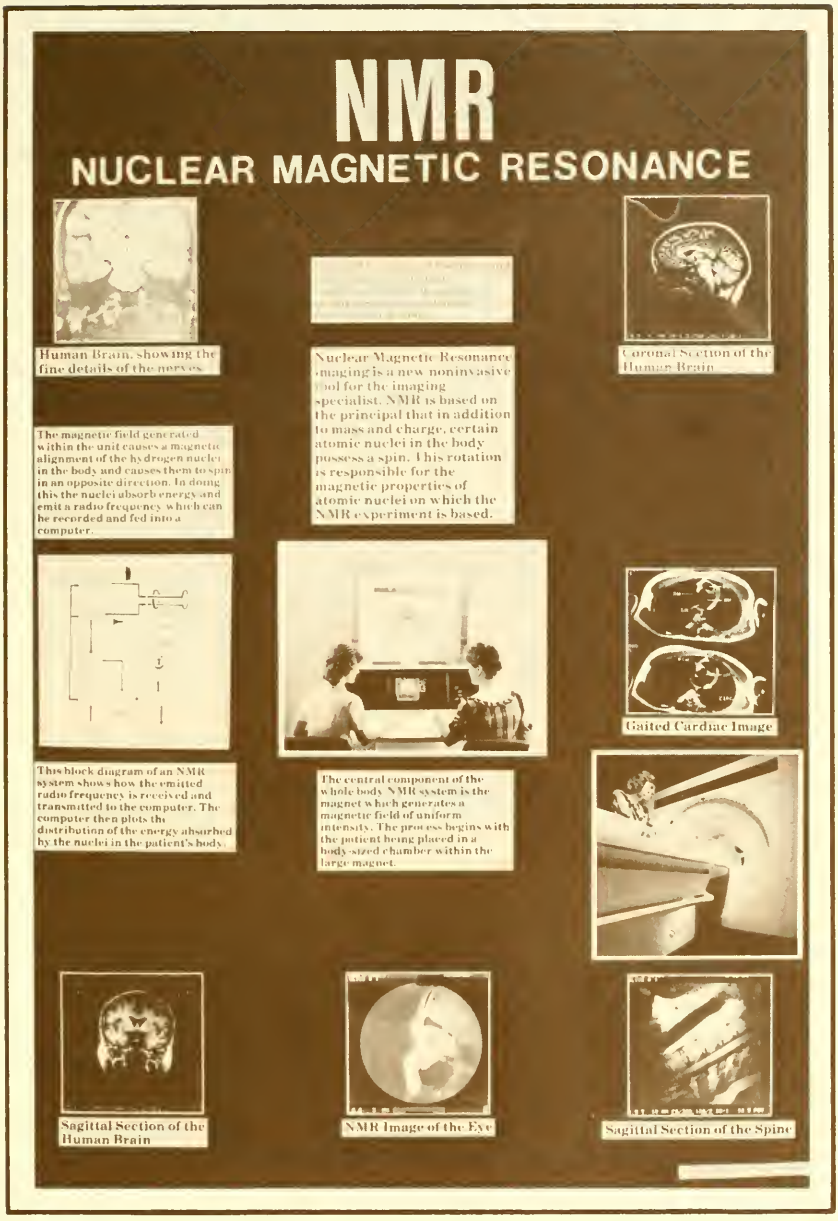
the process of digestion. Beaumont's opportunity was unique and provided one of the earliest accounts of the observation of an actual interior process.

By the nineteenth century, scientists had developed a variety of instruments to glimpse into the body's interior. The majority of these instruments afforded only a very limited view, usually through an opening of the body, and had the added disadvantage of causing pain to victims. Among these early instruments were the opthalmoscope, an instrument which allowed for the illumination of the deeper structures of the eye, and the laryngoscope, which provided a view of the larynx and esophagus. In addition to these two classic instruments, a variety of other types of scopes were used—cystoscopes, orthoscopes, otoscopes, proctoscopes, etc.

Another turning point in observational methods came about in November 1895, when German physicist Wilhelm Conrad Roentgen noticed a mysterious green glow while enclosing a Hittorf-Crookes vacuum tube in a black paper box and passing an electric current through it. Upon further investigation Roentgen announced that he had discovered a new kind of ray which he himself called "x-rays." Within a matter of weeks, the importance of Roentgen's discovery and its applications and usefulness in the diagnosis of disease and fractures was recognized. Shortly after Roentgen's announcement, Thomas Edison duplicated Roentgen's experiments and his invention of the fluoroscope allowed for the first time the observation of contractions and movement of the heart and other parts of the body noninvasively. These two discoveries, x-ray by Roentgen, and the flouroscope by Edison exerted major influence on medical practice and diagnosis from this point forward. These discoveries constituted the beginning of noninvasive techniques to study the interior of the body and diagnose disease.

The first clinical x-ray in the United States was performed by Edwin Brant Frost on his patient Eddie McCarthy, in the physics laboratory of Dartmouth College only a few weeks after Roentgen's announced discovery. The exposure made by Frost revealed a Colles fracture of the left wrist, and sparked new methods to improve and shorten exposure times both in this country and abroad.

Around 1900 Dr. William Morton made yet another step forward when he was successful in photographing the entire human body. The subject was a thirty-year old woman, five feet, 4 inches tall. Morton placed his tube four and a half feet from her body and used an exposure time of thirty minutes.


NMR
NUCLEAR MAGNETIC RESONANCE
Human Brain, showing the fine details of the nerves
Nuclear Magnetic Resonance imaging is a new noninvasive tool for the imaging specialist. NMR is based on the principal that in addition to mass and charge, certain atomic nuclei in the body possess a spin. This rotation is responsible for the magnetic properties of atomic nuclei on which the NMR experiment is based.
Coronal Section of the Human Brain
The magnetic field generated within the unit causes a magnetic alignment of the hydrogen nuclei in the body and causes them to spin in an opposite direction. In doing this the nuclei absorb energy and emit a radio frequency which can be recorded and fed into a computer.
Gated Cardiac Image
This block diagram of an NMR system shows how the emitted radio frequency is received and transmitted to the computer. The computer then plots the distribution of the energy absorbed by the nuclei in the patient's body.
The central component of the whole body NMR system is the magnet which generates a magnetic field of uniform intensity. The process begins with the patient being placed in a body-sized chamber within the large magnet.
Sagittal Section of the Human Brain
NMR Image of the Eye
Sagittal Section of the Spine

This complementary panel to the nuclear medicine panel tells the story of NMR (nuclear magnetic resonance). Also illuminated from the back, it illustrates images of the brain, eyes, spine and heart. (Photo courtesy of The Pearson Museum.)

By the end of the first decade of the twentieth century, radiology was being recognized as a medical specialty, and x-rays were being used for therapy as well as for diagnosis. Ironically, while x-ray was becoming safer for use with patients, it was causing the death of early developers who had received lethal doses of radiation during the experiments. With all the excitement of the initial discovery, many noble pioneers in radiology failed to take adequate precautions when they were experimenting. It was difficult to imagine that rays which could not be seen, smelled, or felt could have such dangerous side effects, but they did. The effects of lethal doses of radiation led far too often to slow, agonizing death. A mere handful of scientists, including Bostonians Francis H. Williams and William Rollins, were convinced of the potential danger of x-ray exposure and devised a number of suitable devices for protection. The advent of radiation therapy came about largely as a result of the effect of x-rays on early experimentors.

X-ray in various forms is still exerting its influence on us today. New non-invasive imaging methods such as NMR, CT, nuclear medicine, and ultrasound are but a few of the techiques used in the expanding array of non-invasive methods of diagnosis, and constitute a significant advance in attempts to understand the human anatomy and diagnose disease.

INSTRUCTIONS TO CONTRIBUTORS

Editorial Policy: Papers will be considered for publication on the condition that they are submitted solely to *Caduceus.* Manuscripts of regional or national interest on topics pertinent to the history of medicine and the development of health care will be considered. Appropriate manuscripts will be judged by at least two reviewers before a decision is taken on their acceptance. When a particular manuscript is accepted for publication, the author will be required to sign an agreement transferring copyright to the Board of Trustees of Southern Illinois University. No published material may be reproduced elsewhere without the written permission of the publisher and the author.

Interested authors should submit manuscripts in duplicate and address all correspondence to the Series Editor: Glen W. Davidson, Ph.D., Chairman, Department of Medical Humanities, Southern Illinois University School of Medicine, P.O. Box 3926, Springfield, Illinois, 62708.

Preparation of Manuscripts: All manuscripts submitted must be typed doublespaced throughout, including references, tables and footnotes. Margins should be 1½ inches all around—top, bottom, left- and right-hand margins. All pages of text should be numbered consecutively, beginning with 1.

Title Page: The title page should be on a separate piece of paper, and should carry the title of the manuscript, the name(s) of the author(s), and the affiliation of the author(s).

Text: Manuscripts should be limited to 45 pages for longer features and 15 pages for shorter ones. Conformity to the *Caduceus* guidelines listed below is expected; any deviations must be discussed with the Editor prior to submission of the manuscript.

- *Matters of style.* For mechanics of style, manuscripts are expected to conform to *A Manual of Style, Thirteenth Edition* (Chicago: University of Chicago Press, 1982). For spelling authors should use *Webster's Third New International Dictionary of the English Language, Unabridged* (Springfield, MA: G & C. Merriam Co., 1969).

- *Typing Reminders:* Manuscripts should have three-space paragraph indentation, not block paragraphs. The use of subheads is encouraged, and those used should be centered on the page, typed in capitals and lowercase. Block quotations should be typed doublespaced, indented on the left and the right margins, with three spaces above and below. Less than seven full lines of typed quotations should be run into the text and enclosed in quotation marks. Underline only words which should appear in italics.

- *Back Matter.* Notes should be typed doublespaced on sheets separate from the text numbered consecutively with Arabic numerals. Bibliographies should be typed doublespaced on sheets separate from the text, in alphabetical order by authors' last names. Each item should begin flush left, with runover lines indented three spaces, and triple spaces between items.

(Authors who have not published before are reminded that the correct form of footnotes is different from that of bibliographies.)

- *Permissions.* Permission to quote anything in copyright (illustrative material, prose, poetry, songs) is the responsibility of the author. The rights to published material are usually controlled by the publisher; unpublished material is usually controlled by the author or that author's heirs. In requesting permission, authors should mention to the publisher that *Caduceus* is a scholarly publication, and thereby possibly preclude a fee. Copies of the fully executed permissions should be forwarded to the Editor upon receipt, or at least before the manuscript goes into copy editing.

- *Illustrations:* Photographs, maps, charts and figures are to be provided by the author. Ideally, photographs should be bright, sharp, 5″ x 7″ or 8″ by 10″ black-and-white glossy prints. Each illustration should be identified by affixing on the back a gummed label on which is typed: the number of the illustration, title of the manuscript, and the first few words of the legend for positive identification. An arrow should indicate the top of the illustration.

- *Legends.* The legends for illustrative material should be typed on a separate sheet of paper at the end of the text. Any abbreviations that appear on figures should be explained on this page. If any illustrations are photographs of copyrighted artistic material, the author is requested to include the institution or individual from whom permission to reproduce has been obtained, as well as all pertinent material required in the credit statement.

ANNOUNCEMENTS

ASSOCIATION PLANS ANNUAL MEETING

The annual meeting of the yet to be named association of health science museums will be held in Rochester, New York, on April 30 and May 1, 1986. The choice of meeting dates has been planned so as to coincide with the American Association of the History of Medicine meeting at the same location. Patsy Gerstner reports that a tentative schedule for the meeting of the new association is being set up at the present time. Association members will receive finalized information on the planned conference in late March.

EQUIPMENT CATALOGUE SEARCH

The Division of Medical Sciences of the National Museum of American History has issued a call for lists of medical equipment catalogues published prior to 1930 from museums, libraries and other sources willing to make available such literature for research. This information is presently being compiled for a forthcoming published bibliography. All standard catalogue data—including the name of each company, dates, number of pages, title of catalogue and types of products sold—is helpful. Persons with pertinent information are directed to contact Mark Dreyfuss, Room 5000, Division of Medical Sciences, National Museum of American History, Smithsonian Institution, Washington, DC 20560.

CALL FOR CONTRIBUTIONS

Readers are encouraged to submit copy for announcements of museum news, information on current exhibits, etc. to the Editor, CADUCEUS, Department of Medical Humanities, SIU School of Medicine, P.O. Box 3926, Springfield, IL 62708

EXHIBITS

THE PEARSON MUSEUM EXHIBIT

A new exhibit tracing the development of noninvasive techniques used to view the interior of the body for diagnosis of disease is now on display in The Pearson Museum at Southern Illinois University School of Medicine in Springfield. Entitled "Glimpses of the Body's Interior: Scopes, X-ray and Medical Imaging Techniques Today," the exhibit is scheduled to run through the fall of 1986.

Among the items on display are a Wagner mica plate static machine, handblown glass x-ray tubes and an Edison fluoroscope on loan from the Bakken Library of Electricity in Life in Minneapolis. Also on view are a variety of safety devices on loan from the Howard Dittrick Museum of Historical Medicine in Cleveland.

For further information, contact Lisa Dziabis, Curator, at (217) 782-4261.

NEW EXHIBIT OPENS AT CLEVELAND HEALTH EDUCATION MUSEUM

"The Story of Blood" is the subject of a new exhibit which opened January 2 at the Cleveland Health Education Museum. The exhibit explores the many facets of blood and blood giving, from the cellular components to how the American Red Cross processes blood donations. Colorful displays depicting the major cells are included along with a computer terminal designed to provide additional information on the subject. The exhibit is jointly sponsored by the Greater Cleveland Chapter, American Red Cross and Cleveland Health Education Museum.

Call Kevin Blanchet at (216) 231-5010 for further details.

Credits:

Archives and Special Collections
on Women in Medicine,
The Medical College of Pennsylvania
Charles C. Thomas, Publishers
Historical Division of the Cleveland Health Sciences Library
David B. Lewis, M.D.
The Pearson Museum

Produced for the Department of Medical Humanities,
Southern Illinois University School of Medicine by the
Division of Biomedical Communications, Illustration
Debra Vaninger, Design
Pat Baker, Typesetting